

Program “Geophysical Data Acquisition and Processing”

Month 1

| Topic | Dates | hrs | Dates due |
|--|--------------|-------------|-----------|
| Skype introduction conference | 1 | | |
| Video:1.1 | | | |
| Literature | 1-30 | 9.5 | 30 |
| Chapter 1: The principles and limitations of geophysical exploration methods Q&A Chapter 1 | | 0.5 | 3 |
| Video: 1.1 | | | |
| Chapter 6: Gravity surveying Q&A Chapter 6.1, 6.2, 6.3, 6.5, 6.6 | | 3.0 | 10 |
| Video: 1.2 | | | |
| Chapter 7: Magnetic surveying Q&A Chapter 7.1, 7.2, 7.3, 7.4, 7.11 | | 3.0 | 17 |
| Video: 1.3 | | | |
| Chapter 8: Electrical surveying Q&A Chapter 8.1, 8.2.1-3, 8.2.6, 8.3.1-2, 8.4.1-3 | | 3.0 | 24 |
| Video: 1.4, 1.5, 1.6, 1.7 | | | |
| Exercises: Gravity | 1-10 | 2.0 | 10 |
| Ex_Swing | | 0.5 | 9 |
| Ex_Contour map anomaly | | 0.5 | 12 |
| Ex_Gravity response sphere | | 0.5 | 16 |
| Ex_Gravity resolution | | 0.5 | 19 |
| Exercise: Magnetics | 11-20 | 1.0 | 20 |
| Ex_Finding your local magnetic field | | 0.5 | 26 |
| Ex_Grav-Mag responses | | 0.5 | 30 |
| Exercise: Electrical | 21-30 | 2.5 | 30 |
| Ex_Effective Resistance | | 0.5 | 22 |
| Ex_Electrical Surveying | | 0.5 | 24 |
| Ex_Resistivity profiles | | 0.5 | 26 |
| Video 1.9, 2.0 | | 0.5 | 28 |
| Skype progress conference | 29 | 0.5 | 30 |
| Total | | 15.0 | |

Ref: An Introduction to Geophysical Exploration, Kearey, Brooks, Hill, ISBNB0-632-04929

Month 2

| Topic | Dates | hrs | Dates due |
|--|--------------|-------------|-----------|
| Literature | 1-30 | 9.0 | 30 |
| Chapter 9: Electro-Magnetic surveying Q&A Chapter 9.1-3, 9.11.3, 9.12, 9.13 | | 3.0 | 7 |
| Video: 2.1 | | | |
| Chapter 3: Elements of seismic surveying Q&A Chapter 3.3-3, 3.2.6-8 | | 3.0 | 15 |
| Chapter 5: Seismic refraction surveying Q&A Chapter 5,1-4 | | | |
| Chapter 4a Seismic reflection surveying Q&A Chapter 4.1-4 | | 3.0 | 30 |
| Video: 2.2, 2.3-11 | | | |
| Exercises: Electro-Magnetic surveying | 1-9 | 1.5 | 9 |
| Ex_EM | | 0.5 | 3 |
| Ex_CSEM | | 0.5 | 6 |
| Ex_TDEM | | 0.5 | 9 |
| Exercises: Refraction | 10-11 | 0.5 | 11 |
| Ex_Refraction | | 0.5 | 11 |
| Exercises: Reflection | 12-30 | 3.5 | 30 |
| Ex_Shot raypaths | | 0.5 | 13 |
| Ex_Field record | | 0.5 | 15 |
| Ex_Surface and subsurface diagrams | | 0.5 | 17 |
| Ex_Propagation of seismic waves | | 0.5 | 19 |
| Ex_Snell's Law | | 0.5 | 21 |
| Ex_Reflection and Transmission | | 1.0 | 25 |
| Videos: 2.4, 2.5, 2.6 | | 0 | |
| Skype progress conference | | 0 | |
| Total | | 14.5 | |

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Month 3

| Topic | Dates | hrs | Dates due |
|---|--------------|-------------|-----------|
| Literature | 1-31 | 4.0 | 31 |
| Chapter 4b: Seismic reflection surveying Q&A Chapter 4.5-9 | | 4.0 | |
| Video: 3.1-3 | | | |
| Exercises: Processing | 1-17 | 5.0 | 17 |
| Ex_Sampling & Aliasing | | 0.5 | 2 |
| Ex_Near-surface Statics | | 0.5 | 4 |
| Ex_Stacking Velocity picking | | 0.5 | |
| Ex_KF Transform | | 0.5 | 6 |
| Ex_Correlation, Convolution, Deconvolution | | 0.5 | 8 |
| Ex_Discrete Fourier Transform (DFT) | | 0.5 | 10 |
| Ex_FFT | | 0.5 | 12 |
| Ex_Migration Displacement | | 0.5 | 14 |
| Ex_Diffraction curves | | 0.5 | 16 |
| Ex_Migration using Diffraction curves | | 0.5 | 17 |
| Exercises Interpretation | 16-25 | 2.5 | 25 |
| Ex_TD conversion | | 0.5 | 18 |
| Ex_DT conversion I | | 0.5 | 21 |
| Ex_DT conversion II | | 0.5 | 22 |
| Ex_TD conversion by vertical stretch | | 0.5 | 24 |
| Ex_Dimming | | 0.5 | 25 |
| Exercises: VOI | 25-31 | 1.0 | 31 |
| Ex_VOI | | 1.0 | 31 |
| Video: 3.4-6 | | | |
| Final test | | | |
| Skype final conference | 31 | | 31 |
| Total | | 12.5 | |
| Grand Total | | 42.5 | |

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For information on the fee and registration please contact info@epts.org .